

A RESORT HOTEL FOR THE THOMPSON RACEWAY DEVELOPMENT
IN THOMPSON, CONNECTICUT

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF BACHELOR
OF ARCHITECTURE AT THE MASSACHUSETTS
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Dear Sir:

In partial fulfillment of the requirements for the degree of Bachelor of Architecture, I respectfully submit this thesis, entitled, "A Resort Hotel for the Thompson Raceway Development in Thompson, Connecticut."

Sincerely yours,

Andrew S. Blackman

This thesis is dedicated to my
parents, who have made my education
more than just of token interest in
their lives.

ACKNOWLEDGEMENT

I would like to acknowledge the generous help of Dean Belluschi, Professor Brown, Professor Beckwith, Professor Catalano, Professor Gelotte, Professor Newman and the faculty and staff of the Department of Architecture.

I wish to thank Mr. George Weaver, Manager of the Thompson Raceway, for his aid in programming, and Mr. Giovanni Tencati for aiding me through the years in reaching the heights towards which we all aspired.

ABSTRACT

A Resort Hotel for the Thompson Raceway Development
in Thompson, Connecticut
Submitted by Andrew S. Blackman
For the degree of Bachelor of Architecture
Massachusetts Institute of Technology
Department of Architecture
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This thesis entails the design solution of a resort hotel for 340 guests which will be located in the town of Thompson, Connecticut, soon to become the sports car racing center of New England. The design of a large hotel is one of great magnitude and is complicated by a multitude of complexities but can yield a solution of great interest and excitement along with the solution to the functional requirements.

The written part of this thesis presents the background material in the problem, the criteria I have employed, and a verbal discussion of the design.

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INTRODUCTION: THE HOTEL IN NEW ENGLAND

More than a century has passed since the beginning of the era when the New England resorts were first sought as vacation spots by people from all over the nation. The White Mountains, the Berkshires, Bar Harbor, and Newport thrived for many decades on the tourist dollar. The nineteenth century introduced onto the New England landscape a highly stereotyped and very successful hotel form -- the multi-storied wooden block of 100 to 300 rooms surrounded by the popular veranda. The American plan meal system was introduced, a leisurely atmosphere prevailed, and nature activities were in vogue. Today, a few examples of this nineteenth century hotel remain, sustained by the remains of a nineteenth century clientele. These are the old summer hotels, large and misformed, characterized best by the many groups of en-porched rocking-chair old ladies, and by the quiet and solitude inherent to the type. Gradually, fire or general mortality has wiped out most but many still remain attractive owing to their reputation, service, cuisine, or social value.

Today, the usable natural resources of New England are meager. The soil is for the most part inferior, the timber supply has been exhausted, and its value as a source of water power has been exceeded by many localities. In the past ten years the old textile industries have relocated in the economically more favorable south, while light manufacturing and the electronics industries have

relocated from many areas in the mills left vacant. New industrial development is clearly in sight. Coupled with this has been a renaissance of local interests in the scenic attractiveness of the New England states in order to boost their position as vacation spots.

In recent decades the resort clientele has shifted to a group less wealthy but more active. The Green Mountains, Maine woods, and the coast cater to those whose interests lie in swimming and fishing, while Cape Cod finds support for its many towns by providing vacation colonies for the seekers of sun and sand. With the scenery and charm of these localities assured, the crucial factor in the economic success of any one place is the quality of the accommodations offered.

Present trends indicate that the abuses and expenses of the traditional hotel type are mounting. The last twenty years have witnessed the advent of smaller hotels and inns based on the colonial type. Their success is due in part to the lower rates possible by their offering only food and lodging, accompanied by less recreational and sports activities and less formality. Motels too, have swept the business away from the traditional hotel type. They are ideal for the motoring tourist, offering simple lodging and nearby parking, but lacking social functions and recreational facilities. Many cater to season guests by providing kitchen and dining facilities in addition to mere sleep-

ing accommodations. A great number of hotels have broadened their enterprises by including motels on their sites.

The process of restoring the New England area to the popularity it once enjoyed is a slow and tedious job. New directions must be sought.

THE HOTEL FROM THE BUSINESS STANDPOINT

The hotel is a business concern established not as a real estate venture but as a complex and highly specialized type of business. Its chief offerings are food and lodging, the lodging representing a commodity which must continuously be resold. The success of the hotel depends a great deal on the careful organization of its many components, the responsibility of the architect, and on a highly specialized management and efficient service organization, the responsibility of the client.

The hotel business is essentially a small business. This statement deserves further elaboration. The 165 hotel chains in our nation control only about twenty per cent of the one and one half million hotel rooms. In other words eighty per cent of the hotel rooms are found in unaffiliated hotels, the majority of which are small. Only eleven per cent of the total number of hotels have more than fifty per cent of the total number of rooms but take in seventy per cent of the total gross receipts.

Hotel space is expensive to maintain. Therefore two of the direct factors in financial success are the per cent of rooms occupied throughout the hotel season, and the rate charged per occupied room. Experience has shown that hotels must maintain an occupancy of eighty to eighty five per cent for a successful season. For the last decade, due to the spending of the accumulated war-time profits and due to the postwar business boom, they have operated at a large

profit. Today's hotels are enjoying a boom, as indicated by the number of new hotels and by the statistics of room occupancy. With few exceptions the seasonal room occupancy of established hostelrys is varying between ninety and ninety five per cent.

A hasty conclusion indicates that the hotel business is very good. This level of success has not always been enjoyed. During the period of the depression eighty one per cent of the nation's hotels were in the hands of the receivers. The remaining nineteen per cent were all small, of seventy five to one hundred rooms or less. In short, the small hotel has a better chance to survive during the lean years.

New hotels, built today, if located in urban centers are bound to be competing with others built before 1920. Theoretically, these have been amortized twice over, and also theoretically, could meet any new hotel built at today's prices. The other scare to new construction is based on our present period of extreme inflation. The maximum foreseeable hotel rate is in use and more costly architecture cannot be justified in terms of receipts.

Room rates, as previously mentioned, are an important factor in financial success. Following the crash of 1929, competition became very keen and a nation-wide rate war ensued. At the outbreak of World War II, when the OPA froze prices, the rates still had not reached the pre-

crash level. Today, room rates are only slightly higher than those of the war years for similar accommodations. The seemingly exorbitantly high rates charged today in many of the new hotels are for accommodations far in excess of the standards of the early post war period, offering the guest more for the dollar in terms of both material items and services.

As shown by occupancy and rate levels, a small change in room business can effect the whole financial picture drastically. However, operating costs are for the most part stable: the volume of business usually has little effect upon the quantities of light, heat, power, elevator services, maid service, or maintenance.

Today the incoming dollar can be divided in the following way:

Room Sales		41.4 cents
Food and Beverage Sales		50.4 cents
Food	32.3 cents	
Beverages	17.4 cents	
Miscellaneous	.7 cents	
Other sources		8.2 cents
Phone	4.0 cents	
Store rentals	1.5 cents	
Miscellaneous	2.7 cents	
		<hr/>
		\$ 1.00

The same dollar has the following disposition:

Rooms		13.0 cents
Wages	9.5 cents	
Miscellaneous	3.5 cents	
Food and Beverages		39.1 cents
Food cost	12.2 cents	
Beverage cost	5.8 cents	
Wages	14.3 cents	
Music and entertainment	2.0 cents	
Miscellaneous	4.8 cents	
Other Expenses		32.8 cents
Real estate taxes	3.3 cents	
Advertising, pro- motion	1.5 cents	
Utilities	4.2 cents	
Administration and general expenses	9.3 cents	
Depreciation	5.3 cents	
Phone	4.2 cents	
Repair and maintenance	6.0 cents	
Balance for Rent, Interest on Investment, Taxes		15.1 cents
		<hr/>
		\$ 1.00

Careful planning towards efficiency is the criteria to be employed to raise the fifteen and one tenths per cent or to yield more to the consumer at the same rate scale, thereby increasing the stability of the business by building a clientele.

But in a design for a resort hotel a high level of efficiency is not enough. There must be architectural answers to the vacationers desire for a complete change from his home environment and for an atmosphere of relaxed enjoyment.

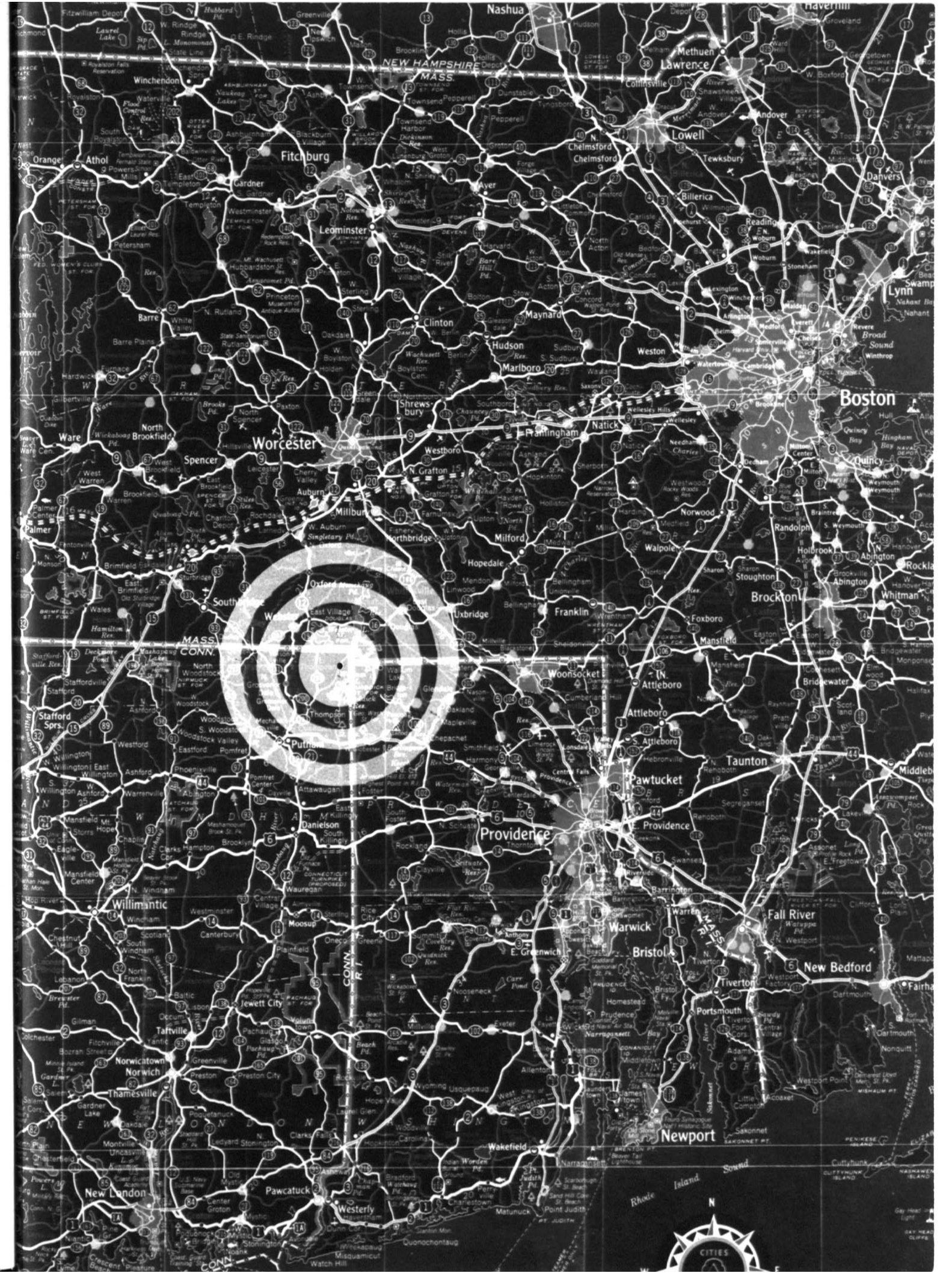
THE SITE

The resort hotel usually is located where there is some natural scenic magnificence, either in mountainous terrain, on the seashore or on the desert. The inherent interest offered by these sites makes them good for resort activities. As well, the qualities the site has can be important in an architectural solution and the architect can make use of them in two ways. Firstly, he can integrate his structure by completely harmonizing his materials, forms, and atmosphere with those common to the area. Secondly, he can design towards the other extreme and achieve a sculptural solution in contrast with the site, like a pearl on velvet, each enhancing the other.

The site for the hotel is to be acquired through the purchase of a parcel of privately owned land adjacent to the Thompson Raceway, near the town of Thompson, Connecticut. Thompson is seventy miles southwest of Boston in the northeast corner of the state on routes 193 and 200 (see map on following page). It is a non-industrial town of 5,500 persons, supporting a small market center, its residents finding employment in nearby industry and agriculture.

As a tourist attraction the town has absolutely no value in the usual sense -- it lacks an individual personality or charm, has no sites of historical or pictorial interest, and is typical of most New England crossroads towns.

Presently it is a center for sports-car racing and activities, competing only with the newly constructed Limerock

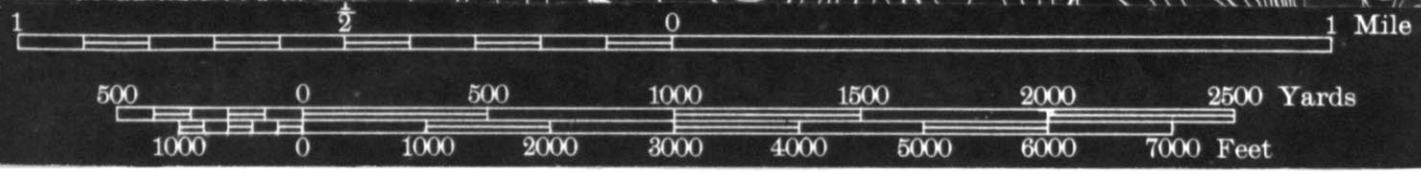


raceway in the New England area. However, the town derives little or no benefit from the participants or spectators due to its lack of accommodations and services.

Projecting well into the future, it is foreseeable that with the construction of adequate facilities to accommodate crowds approaching 50,000 (including grandstands, parking lots, toll booths, activities buildings, official buildings, and maintenance shops), Thompson will become the leading sports-car center for the New England area. With this in mind it is quite possible to predict the location of light automotive industries, garages, and accommodations within the immediate area.

The site itself (see map on following page) is located on the northerly side of a second class highway approximately one mile from the town center and comprises an area of nearly seventy five acres. The remainder of the acquired land, nearly 200 acres, is to be used for parking lots and for the many raceway buildings.

The land included in the area has been partially cleared for farming, but for the most part resembles a virgin forest. The land is gently rolling, typical of the region, varying in altitude from 470 feet to 530 feet above mean sea level. Along the north-east boundary is a stream and pond well stocked with fish and occasionally used for swimming by the local inhabitants.



The soil is fertile and supports many types of plant life varying from the delicate fern to the mighty elm.

The most rewarding views from any place within the site are through the hills to the north-west and to the south-east, in the direction of the raceway. Both offer interest and beauty from the change of contour and through the light effects produced by the sun on the lush growth during the late hours.

No buildings surround the site. A golf course bordering it on the north offers recreation, while nearby lakes and rivers offer boating and swimming.

No noise problems exist, and no limitations as to building size are foreseeable. However, one problem must be met in the lack of local facilities to supply adequate utilities.

The climate is temperate, with little inclement weather occurring other than during the winter months. Good weather generally lasts from March through November, far in excess of the season usually desired by resort localities, enabling a long racing season to be enjoyed.

THE PROGRAM

The program for a resort hotel is bound to be an extensive and highly complicated compilation.

Rather than program completely all the elements to be included in the design, I would rather list the areas and spaces to be solved with the actual requirements regarding square footage and equipment enumerated in the section on the solution.

1. The hotel is to be designed to accommodate 340 guests in a variety of room types with as many amenities in each as is possible.
2. The dining room shall be designed to accommodate 200 guests at one sitting or up to 400 for banquets.
3. A cocktail lounge will be located in near proximity to the dining room.
4. The following recreation spaces are to be included:
 - a card room
 - a club room with a TV area
 - a nightclub and bar
5. Indoor recreation spaces shall provide
 - bowling
 - ping-pong
 - pool
 - billiards, and
 - shuffleboard
6. The lobby space shall be adequate for the incorporation of sitting, writing, entry, desk, and elevator areas.
7. A desk and management office shall adjoin the lobby

space.

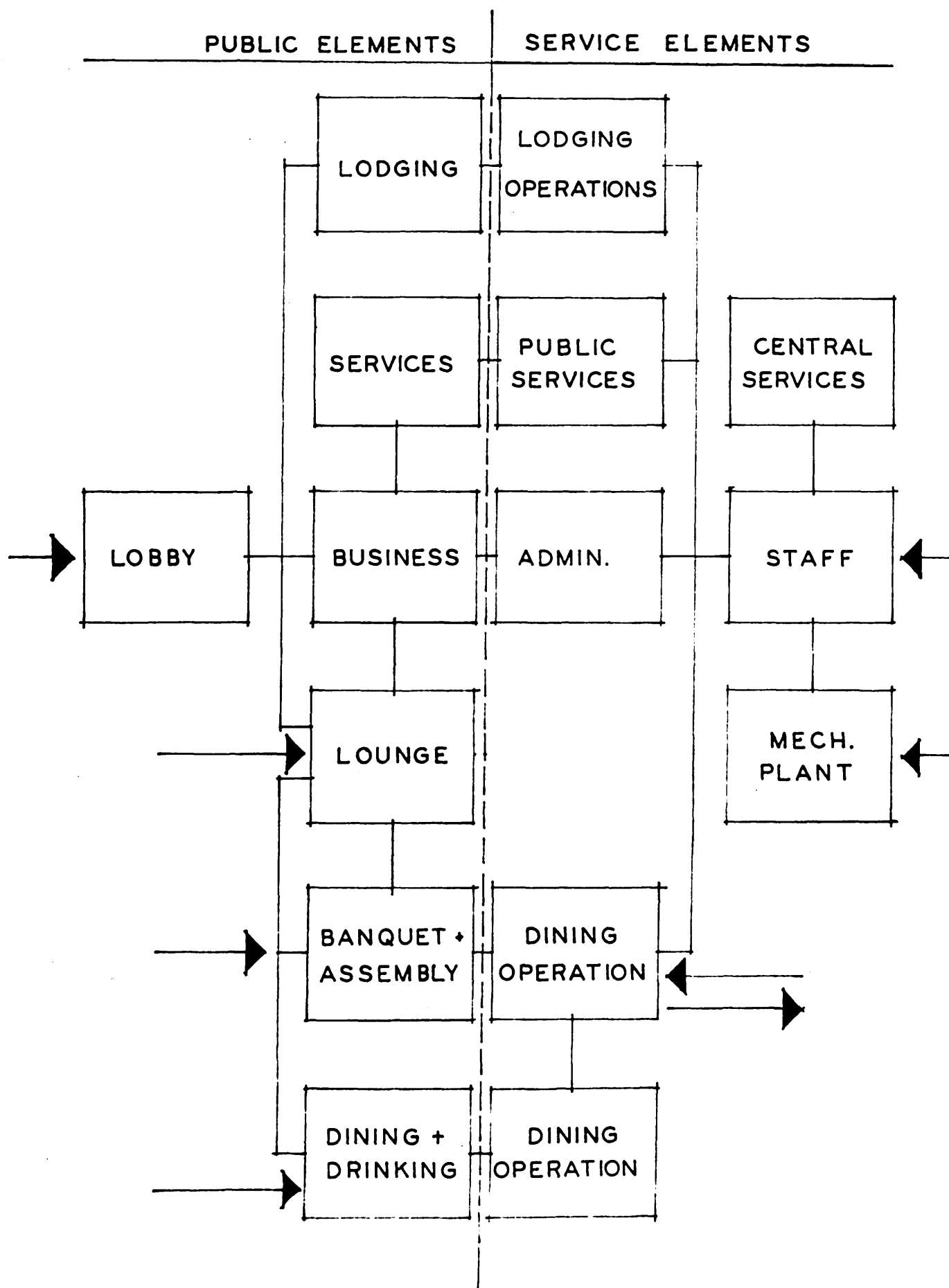
8. Space for an S. C. C. A . office with conference rooms must be provided.
9. A news stand, beauty shop, barber shop and snack bar for twenty five persons shall be included.
10. Adequate rest rooms shall be provided to serve the public spaces.
11. Parking for 200 cars must be provided.
12. Outdoor recreation activities shall include sunbathing, swimming, tennis, shuffleboard, quoits, croquet, horseshoes, archery, golf and handball, and service and maintenance facilities for these must be provided.
13. The service elements shall include maintenance shops, storage areas, laundry and valet space, a utilities area, and ground maintenance storage.
14. The kitchen shall have adequate storage facilities and preparation areas to service the dining and banquet functions.
15. Accommodations for forty to fifty employees shall be provided including lounge, dining, parking, and recreation space.
16. The manager shall be provided with a suite of rooms according to his requirements.

17. The siting shall be accomplished so as to make maximum use of the natural scenery and so as to provide a relaxed, gracious atmosphere.
18. The entire design shall be formulated to serve as a haven for the families of enthusiasts while they are in competition or in training at the raceway development, and as well shall serve as a complete resort facility for the enthusiast and his family or friends in the evenings or when raceway activities are not in session.

DESIGN CRITERIA

The resort hotel caters to the vacationer who desires a certain permanence of locale during his stay which may vary in duration from a weekend to the extreme of the entire season. It must offer many amenities and services: comfortable lodging, good food, abundant recreational facilities, good location (preferably in an area of scenic beauty), isolation from the auto, social activities, the possibility of associating with large groups of people, reasonable rates, and above all a relaxed, congenial and gracious atmosphere. It is the responsibility of the architect to create the plant which will make possible the achievement of each one of the above, and the management is responsible for putting it to best use.

Good design is far more important initially than a good management. The spaces must be gracious as well as functional in order to attract a clientele and maintain effective, efficient, and economical operation. Many of the functional requirements are similar in both the resort and transient hotel types, and in general the relation between public elements and service elements is the same (see diagram on following page). However, owing to their location at sites usually remote from urban centers, resort hotels require less ballroom and banquet space and more recreational facilities. While the transient hotel thrives due to its location in business centers, the resort type survives by providing a life of complicated relax-



ation.

In some instances the resort hotel is located on the outskirts of urban centers and is then designed to offer banquet and private dining facilities in addition to the common leisure facilities. Notable examples are the Caribe Hilton in San Juan, and the Tamanaco Hotel in Caracas.

The circulation and basic planning for any hotel can only be devised by a review of the program. Before forming this schematic plan a comprehensive review of basic criteria is necessary.

The individual guest room is the basic planning unit and the economic yardstick for the entire contemplated design. It is the determinant of structure in any high rise solution and at the same time yields an area and cubage which when multiplied and expanded upon yields the cost of the building. In short the size of the hotel is a function of the number of rooms and their dimensions, and the cost of the hotel is directly related to its size.

The individual room design can only be achieved when the type of clientele desired is understood; basically, room size and furnishings depend on the customer and his desires.

In regards to size, guest rooms in resort hotels are generally larger than their counterparts in the transient type. A good example is the average guest room of the

Caribe Hilton which in plan is basically the same as those in the Terrace Plaza in Cincinnati but includes twenty five per cent more area and private balconies in conjunction with each one. (The public areas are also greater.)

In 1939, a survey¹ showed that the average hotel guest was beginning to require a more modest suite than formerly desired but wanted improved service. Increased flexibility in the plan was becoming an asset, with the possibility of expansion by combining suites even more popular. The planning device of two rooms with interconnecting bath was discarded and the possibility of suites with two baths was studied. Well integrated furniture plans expressing the clients wishes for a studio type room and twin beds were developed and received popular acclaim. The convertible room gave the amenities of the suite in half the space and yielded the elements of luxury accommodations to medium price rooms.

In 1942 the Washington Statler became the first of the major hotels to attempt this room type in fifty five per cent of its rooms, with amazing success imminent. The Terrace Plaza in Cincinnati and the Caribe Hilton in San Juan have since perfected the scheme and enjoy a popularity

1. Randolph, F. H. and Sayes, C. I. of Cornell University, Department of Hotel Administration.

far in excess of any expectations.

In 1947, in an article in Fortune, George Nelson expressed the situation of our hotel rooms vividly and completely:

"The traditional hotel room is a bedroom-size rectangle, flanked by a bath, corridor, and closet. Its furnishings usually consist of a patterned carpet, twin beds, a small night table, a chest of drawers, vanity, desk, one easy chair, one or two straight chairs, and possibly a luggage rack. These items, all borrowed directly from the furnishings of an ordinary home bedroom, are generally so disposed that it is difficult for the guest to use the room for anything but sleeping. Which is fine if he wants to sleep. Walls are sometimes papered, but more frequently painted cream, tan, or bile green; windows are curtained with some uninspired fabric; lighting is provided by one ceiling fixture, which glares in the guest's eyes if he tries to read in bed. Sometimes there are reading lights clamped to the bed back, which promptly fall off if one attempts to adjust the shade. This description does not hold for the best hotels - but neither does it apply to the worst.

"The inadequacy of this type of room for the needs of present-day travelers needs no demonstration. But before attempts at improvement are dealt with, there is another recurring problem that arises in connection with the hotel room - the relationship between design and cost of maintenance.

"The average American, when he finds himself in a hotel room, behaves about as elegantly as he does in his own home. Possibly he is a little more careless. But there is a segment of the population - and every hotel man has encountered it - that, once ensconced in a hotel, rids itself of all inhibitions with extraordinary thoroughness and speed. The gestures expressing new-found freedom may include opening a dusty suitcase on a white spread instead of on the luggage rack, or perhaps grinding out a cigarette stub in the

carpet instead of the ash tray. There is the habit of leaning back in a chair and stabilizing this position by planting the feet on the wall, bed or bureau Towels are used not only for wiping shoes, but for cleaning razor blades. There are the convivial spirits who squirt soda or ginger ale on the ceiling and prefer using the bureau drawer to a bottle opener. This list is not invention: it represents a small part of a horrifying compendium based on a survey of 8,000 hotel rooms made by Walter P. Margulies of the design firm of J. Gordon Lippincott & Co. And while such behavior is confined to the uninhibited fringe of the traveling public, it is nonetheless a problem for management and a challenge to the designer.

"By far the greatest amount of damage results, however, from normal everyday use by normal patrons. Anybody is likely to leave a cigarette too long on a bureau or desk top. Even a careful guest using a luggage rack will probably damage the wall behind. Sheets and mattresses are continually being ruined by guests who smoke in bed, and fire-prevention experts are inclined to ascribe a number of the great hotel fires of 1946 to this cause. The manager of one luxury hotel in New York has remarked that if a guest in a bedroom sends for an extra chair, the hotel can count on two dollars worth of damage somewhere - to the walls, woodwork, furniture, or the chair itself by the time it has been delivered and set in place. Liquor is always a problem. It gets on furniture and mars ordinary finishes; if spilled, it stains the floor coverings; broken glass damages both carpets and woodwork. Male guests who use hair lotions generally leave their mark on wall, bedspreads, and upholstery fabrics. All of this means expense, for the cost of carpenters, painters, seamstresses, upholsterers, cabinetmakers, etc., is related to damage as well as day-by-day maintenance, and the designer who can anticipate the things that are going to happen in bedrooms and plan for them will save many times his fee in the end."

Since 1947 we have come a long way in developing new design patterns for guest rooms of many varieties. The

existing trends indicate the desirability and acceptance of the studio type rooms, well planned storage and dressing areas, maintenance-conscious furniture, etc. But the greatest advance is in yielding a very special aura of intimacy and comfort. Resorting guests must be made to feel that their encampment can be pleasant and of long duration. The attainment of this atmosphere poses difficult problems, particularly when the hotel is of a vertical design. The fact is that the transition from the lushness of the land (tropical or otherwise) to the room, is tedious and impersonal. Generous use of space and all possible design ingenuity must be employed to make rooms personable and comfortable.

Three important considerations in this direction for guest rooms are

1. the balcony in lieu of ground space
2. the living room aura
3. copious dressing and storage areas

Of added importance are the transition elements -- elevators and lobbies -- and they must be reduced to human proportions. Devices which help in these areas are

1. variety in elevator lobbies
2. double loaded corridors, with recessed and/or lowered room entries
3. single loaded corridors, with lateral views and open elevator lobbies

Special emphasis should be placed on a furnishing scheme to produce a sense of coolness and lightness, and at the same time lushness. But here there arises an interesting

problem which has not been clearly answered. When total air conditioning is used, there is no problem if the client wants stuffed creature-comfort furniture. However, in naturally ventilated rooms cool furniture with delicate visual qualities is mandatory. Client, guest and architect have never been able to reach any definite conclusion regarding this problem.

Much contemporary hotel furniture is of the built in type, architect designed and executed, thereby solving many of the problems allied with chosen pieces in the directions of comfort and maintenance. As well, great financial savings can be realized from a well integrated furniture scheme.

Beyond these practical considerations, it is generally true that intelligent design can multiply the number of silent services rendered the guest in his room, create an impression of greater luxury and therefore establish a psychological as well as material foundation for the price charged.

The first inns were built in the days of horse transportation. Besides feeding and lodging the guest, stables had to be provided for the creature. Progress brought the great railroads and the hotels, in turn, located near the terminals. The introduction of the street car and taxi allowed for movement to the in-town urban sites. Today, seventy per cent of arriving guests at the average hotel

come by car, and parking problems on those urban sites are immense. Resort hotels usually do not have these hindrances but rather problems of circulation and siting.

The problem of hotel parking has yielded a wide variety of solutions but the basic desire of all solutions is towards achieving an easy and quick mode of communication from the car to the hotel and vice-versa.

The arriving guest should be able to drive as close as possible to the interior lobby, unload his car, and then either drive to a convenient parking area or allow an attendant to do so. The whole process must be achievable in either good or inclement weather without causing hardship on any of the persons involved. Of greatest importance is the desire to eliminate the parking garage or parking lot atmosphere.

The position of the lobby in which the guest arrives is the result of the desired relation between it and the public drive in space. In a resort it requires more space, furnishings, and services than are needed in a transient hotel or motel where arrivals are late and departures early with little or no time spent in public spaces.

The lobby as a public space must pay for itself, and its elements, the entrance and main lobby, set the tone for the interiors of the entire building. The guest receives his first impression of the establishment from the lobby

and often buys his room sight unseen, taking his cue from it.

The hotel has two main arteries: guests must flow from activity to activity on one, employees on the other, and they must not come in contact except at the points of activity. Visual contact is especially harmful in places like the kitchen, laundry, and other undramatic areas.

In transient hotels the normal course of business must not be effected in any way by outside parties or banqueting people. Inasmuch as the resident patron desires good individual service the placement of rooms for these functions deserves great study.

The location of banquet rooms is highly dependent on the position of the hotel kitchen and dining areas. The dining room is usually placed to provide ready access from all rooms, from the exterior and from the lobby areas, its area and form derived from the type of atmosphere desired. The aura of formal dining is being replaced more and more in favor of the grille or cafe where a more intimate atmosphere and lower prices prevail. At the same time the formal atmosphere is being maintained in the banquet rooms or in the fashionable roof gardens where the dinner dance with entertainment is gaining favor.

The kitchen area is usually located adjacent to the dining facilities and near the utilities area, but with service

access. This last item is of great import so that all incoming goods can arrive without hindrance. A central receiving room is desirable where all goods may be receipted upon delivery. Receipt and issue of supplies including dry stores for housecleaning and maintenance besides food stuffs is usually controlled by a store-keeper.

The kitchen area usually is close to fifty per cent of the total areas of the dining spaces it serves. Seldom do two level schemes work: dining room on one floor, kitchen below. The plan, of a hotel kitchen with full equipment and work space, should logically follow the sequence of food service: the receipt of provisions, their storage, preparation, cooking, and serving.

The bake shop usually requires an additional twenty five per cent of the kitchen area and must be considered if the locale of the establishment is not near an urban center.

Storage facilities likewise require an additional twenty five per cent and include space for linens, china, glassware and silver. The employees dining room must be planned for as well, with adequate facilities for their leisure dining.

Mechanical ventilation is desirable in dining rooms and essential in preparation rooms. Ducts from the hoods over ranges, broilers, and steamers must be independent of other exhaust systems.

Experience has shown that it is a good policy to enlist the aid of restaurant suppliers and planners at an early design stage in order to avoid the problems later developing from inadequate dimensions or space.

Many activities radiate from the lobby area, among them the traditional hotel cocktail lounge and bar catering to residents and outsiders. The atmosphere in this space should be warm, inviting, and different from any other area in the building. Often the bar can serve nearby card and club rooms as well as the customers in the lounge. It is important that this or another lounge be located so as to attract the before dinner drinkers and the waiting friend. Adjacent to such an area are usually the coat room and mens and womens lounges. These can and should adequately serve the dining and banquet facilities as well.

Most hotels increase their revenue by leasing lobby perimeter space to privately managed shops. These supply many of the necessities not locally available or give added convenience to the guests. There are many types that find this space profitable: news stands, barber shops, beauty shops, cigar stands, drug stores, florists, clothing and accessory stores, etc. The ultimate in this type of occupancy is the Terrace Plaza in Cincinnati where half the ground floor cubage is lease space and accounts for almost ten per cent of the total revenue.

Adequate recreation facilities are important in attracting

a resort clientele. Indoors the reading, writing and game rooms, public spaces, must be secluded so as to benefit from quiet and on the other hand be located so that the quiet areas are not disturbed by them. The inclusion of costly indoor recreational facilities varies directly with the size of the hotel. But these require little maintenance while exterior athletic areas require a great deal of maintenance. The large resort should provide adequate facilities for many guests to enjoy these sports and games: ping pong, pool, billiards, bowling, badminton, tennis, handball, shuffleboard, croquet, horseshoes, archery, golf, and swimming.

In addition a supervised children's recreation area should be provided including swings, slides, sand boxes, climbing apparatus, see saws, etc.

The swimming pool or pools should have adequate locker, shower, and toilet facilities and be under the supervision of trained lifeguards. Sundecks, bars, and outdoor drinking pavilions often overlook the pool and are important recreation areas in warm climates.

Service

Utilities rooms will usually include many items of equipment varying from steam boilers to icemakers and adequate cubage must be devoted to each. The area should be under the constant supervision of a qualified engineer.

As well, large quantities of room must be reserved for maintenance shops, storage areas, and the laundry, the latter to serve all the rooms, the lounges, and dining facilities. Employees quarters and areas should be as close as possible to the main buildings but must not interfere with the guests' activities. They should have adequate separate recreational and parking facilities and above all an atmosphere allowing them to rest from their active duties. On the other hand many employees commute to work and require only locker and lounge space.

Any new hotel and its furnishings should be studied in terms of maintenance. Style changes and technology bring about early obsolescences, and replacement is expensive. Beyond this, repairs can be kept to a minimum by sound design and by enforcing good qualities of craftsmanship during construction.

Keeping these and other planning criteria in mind during the entire process of design is important but can only aid in achieving a good solution. They do not yield a building or a plan but merely serve as a guide for any competent designer.

THE PLANNING CONCEPT AND SOLUTION

In a letter to the New York Herald Tribune, a lay individual expressed his opinion of our contemporary architectural form:

"To the N. Y. Herald Tribune:

"The evolution of American architecture has stalled on a rather barren plateau of repetitive forms that are neither original nor creative in concept. The prevailing trends exhibit a discouraging monotony and coldness. Esthetic considerations are relegated to the background by so-called spatial requirements.

"The current 'shoe-box' design formula is perhaps the most banal. This architectural stylization is essentially a hard, rectangular, monolithic mass, totally unrelieved by any secondary features. This package building design now comes in an assortment of exterior wrappers or facade materials: aluminum, stainless steel, bronze and structural ceramics. Although this formula is hailed in many quarters as the ultimate triumph of the new architecture, does it not, in reality, represent a nadir in esthetic and creative concept? Is it not preferable to be eclectic rather than sterile?

"American architecture, I believe, is in grave danger of being 'accepted' by the general public much as outlandish automobile design is accepted by a complacent consumer market. If this should occur, then the architecture of the future will face dismal prospects.

"We are now witnessing the full turn of the post-war cycle of decentralization from urban areas. The once-discarded thesis of urban concentration again is dominant. Many factors have been advanced to justify this reversal in thinking, yet the overriding exigencies of our transition to the nuclear era must surely indicate the fallacy of such dated planning.

Gordon D. Friedlander.
White Plains, N. Y., April 12, 1957."

This criticism was brought to the attention of this author well after the design was contemplated and initiated, but

it serves to illustrate some of the thoughts in my mind regarding the direction towards which my solution aspires.

Our contemporary forms are too often divorced from their uses and bear no relation to the individuals making use of the spaces contained. We have found a plane of sterility of new forms and have introduced a lack of warmth through repetitive use of new materials and bizarre spaces. The cliché is too often the accepted planning device; we find our new edifices clothed in and surrounded by them, their uses and meanings undefined except in the mind of the designer.

It is my belief that the architect's responsibility and job is to analyze the problem in terms of its requirements and aspirations, and to formulate a design calculated to introduce excitement into the solution providing at the same time for the realization of the functional complexities. The moral and social values of the public or the client cannot be altered or violated in order to allow the designer to indulge in whim or fantasy which can have meaning or interest only to himself or to the architectural profession.

Every space must be calculated empirically from its requirements and activities. Forms must not only have an aesthetic level of interest, but must have a relation to the function enclosed.

In short, we, as designers, must use our knowledge of plan-

ning, form, proportion, color, space, technology, and philosophy in order to achieve designs which will be keyed to public satisfaction, enjoyment, and delight.

In this thesis I have undertaken the solution of a complex problem, further complicated by the lack of existing amenities offered by the site; to introduce many special requirements; and to produce a mature, valid, and interesting design.

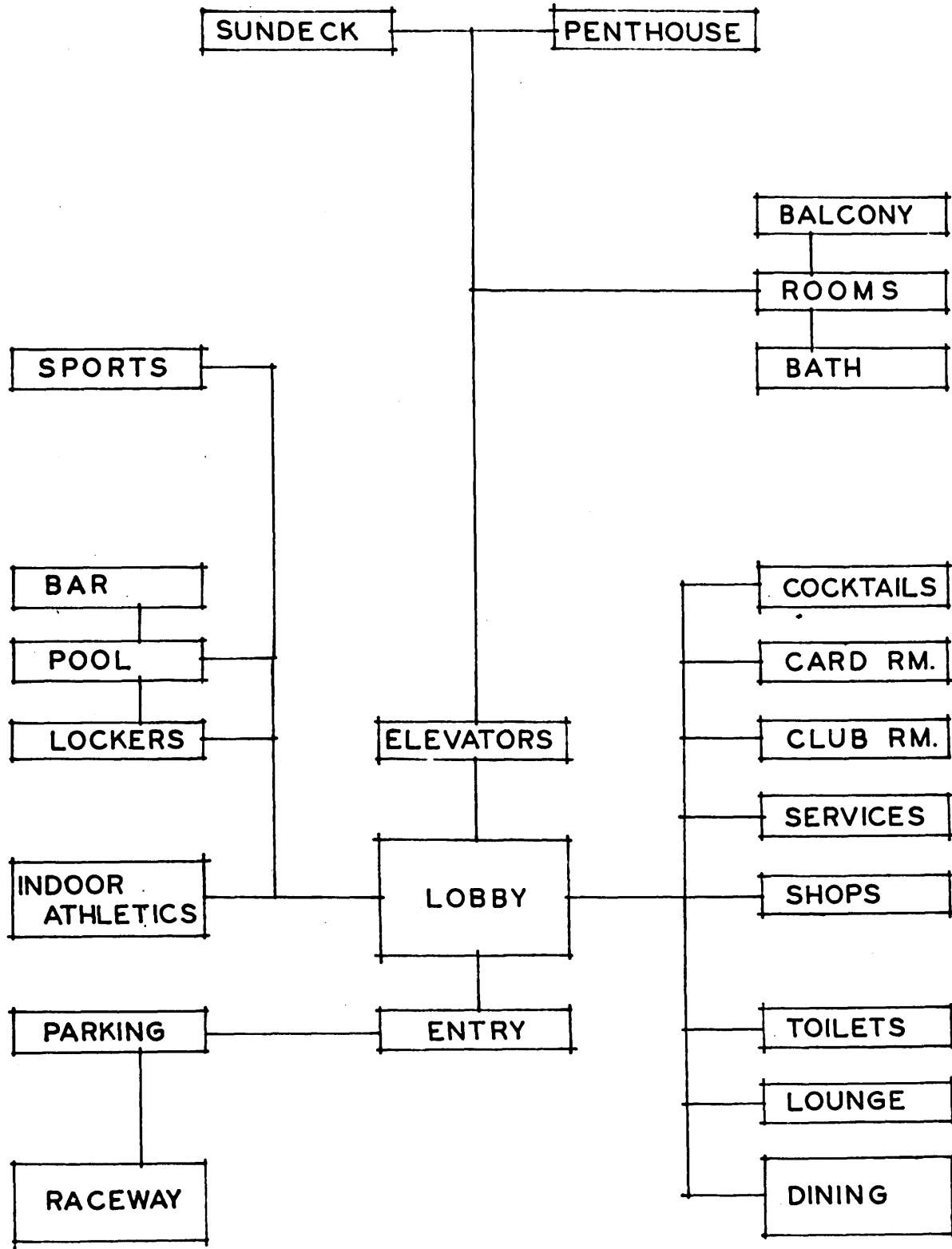
It has from the start been my intention to produce a building which will grow out of its site and yet appear in dramatic interplay as a man-made edifice against the green hills of the surroundings.

Design

In the design a planning device has been incorporated which allows for elaborate development of the spaces and areas. The equilateral triangle, and its extension, the regular hexagon, have been used to create exciting and interesting spaces with a flow and interplay uncommon to rectangular schemes. The hexagon allows for equal axes of expansion in six directions while the rectangle allows for only four, and by a skillful use of ground, wall, and overhead elements can create spaces of a nature uncommon to our experiences.

The basic circulation (see diagram on following page) seemed to call for a high rise solution which could provide a great

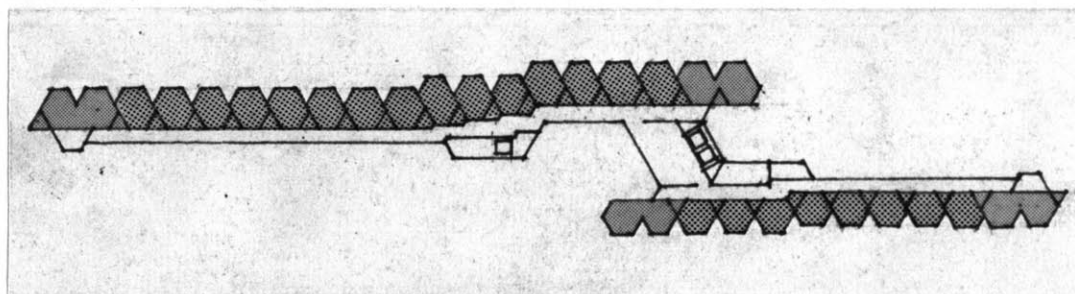
CIRCULATION - GUESTS ONLY



degree of efficiency and as well take advantage of the siting. This unit could best be set upon a base containing the many services, and recreational and social activities.

The building

There are 150 guest rooms divided evenly on the six high-rise floors: twenty single rooms, ninety double rooms, twenty three-person suites and twenty four-person suites.

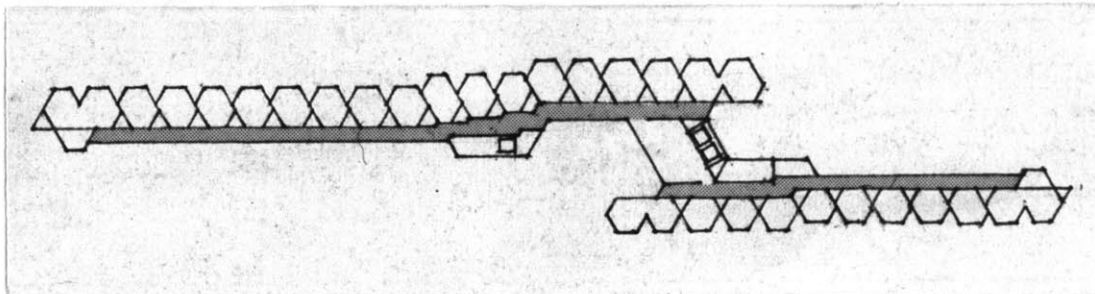


The **single and double rooms** are hexagonal in shape while the **suites** are combinations of two of these units. Each hexagon contains an area of approximately 300 square feet and includes a balcony of seventy square feet. The views from these balconies are towards the sunlit hills to the east from the north wing, and towards the hills to the west from the south wing.

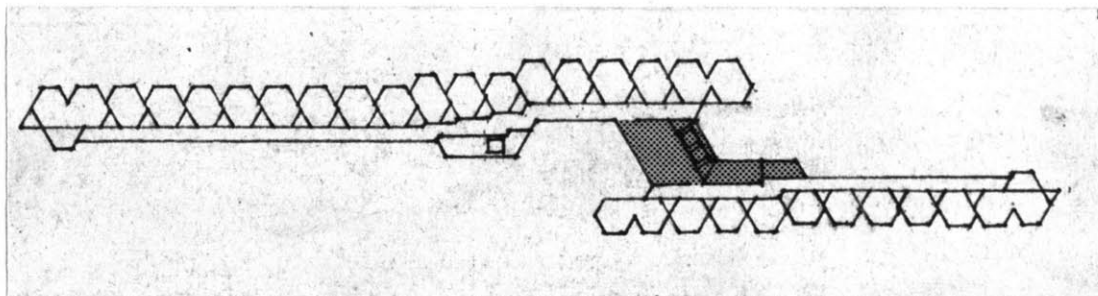
The furnishings include a built in vanity-desk, free standing or wall closets with adequate trunk and clothes storage space, beds, chairs, and tables. The designs achieve a flowing, yet enclosed, variety of spaces and a relaxed, gracious atmosphere.

The bathrooms for each room occupy a triangular area with

a triangular bath tub in addition to the usual fixtures. As well, a linen storage closet and ice keeper are included. The final presentation will better illustrate these important components of the solution.



The **corridors** in the high rise are single loaded and work as a sound barrier to noise from the night club on the westerly side of the north wing and to noise from the parking lot on the easterly side of the south wing.

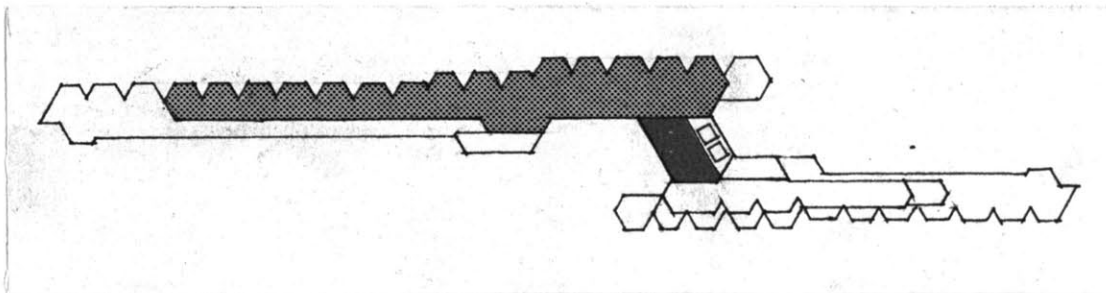


The two wings are joined by a **service core unit** which includes an elevator lobby, the elevators, a staircase, a housekeeper's room, and utilities. These lobbies are furnished to function as sitting areas for waiting or reading, and enjoy a view over the site towards the race track.

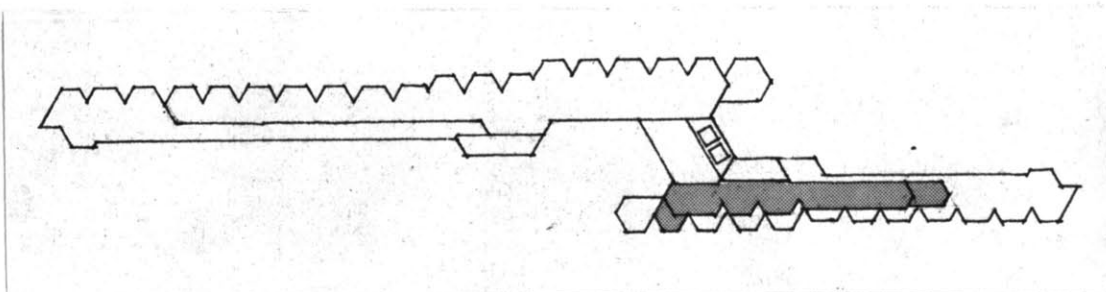
Panels block the view from the lobby to any of the room doors. The hallways begin from this area and undulate and

diminish in size until they reach an eight foot width with the guest room doors on one side and a view over the landscape on the other.

The two passenger elevators run to the roof and empty into another lobby.



This lobby feeds into a **sundeck** on the south wing which has a wood deck floor, is enclosed by low undulating walls, and is partially covered by a repetitive series of hexagonal frames infilled with removable canvas panels.



The north wing adjoining the lobby contains the **manager's suite** enabling him to use the lobby and sundeck opposite for affairs. His suite contains a living room and dining room with a combined area of 430 square feet. The view from this space is over the adjoining private porch, to the south and east. The kitchen adjoins this space containing 180 square feet with adequate closet and counter facilities, and

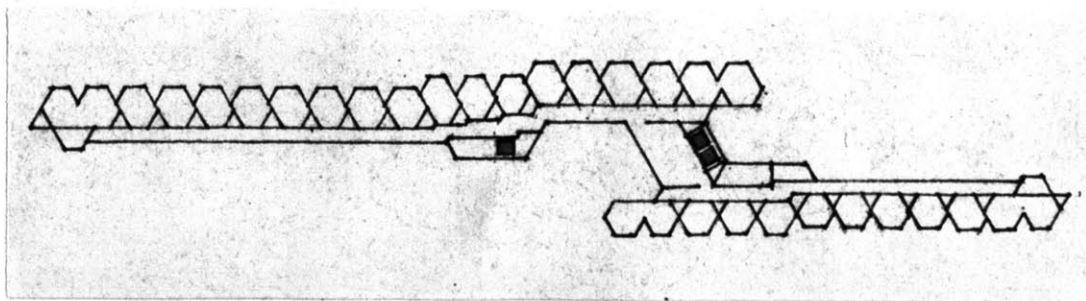
enjoys the same view.

The office, an area of 220 square feet with twenty four square feet of closet area, is the last element entered from the entry hall. It is furnished with filing cabinets, a desk, and chairs.

The staircase from below is the completing element around the entry hall, it being private above the sixth floor. The entry hall contains seating and a storage and coat closet of forty square feet.

The bedrooms and bath are entered from an extension of the entry hall, a single loaded corridor. One bedroom has an area of 180 square feet with twenty square feet of closet. The master bedroom has an area of 400 square feet with spaces for sitting and writing as well as for sleeping. It contains a separate dressing area and has a private outside sundeck. The bathroom is of eighty five square feet, has the usual fixtures with a sitting bench as well.

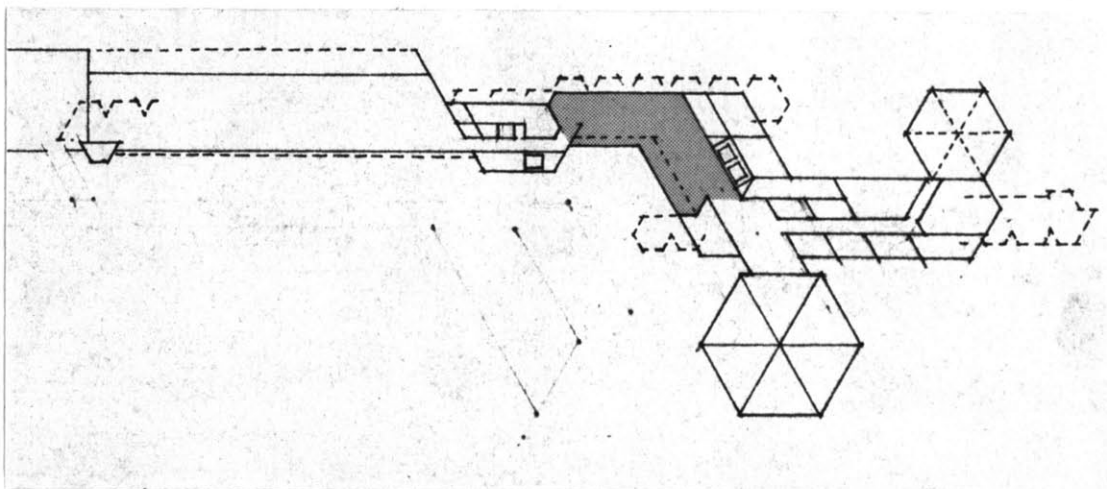
The orientation of views from these rooms as well is to the east for reasons of privacy and morning sunlight.



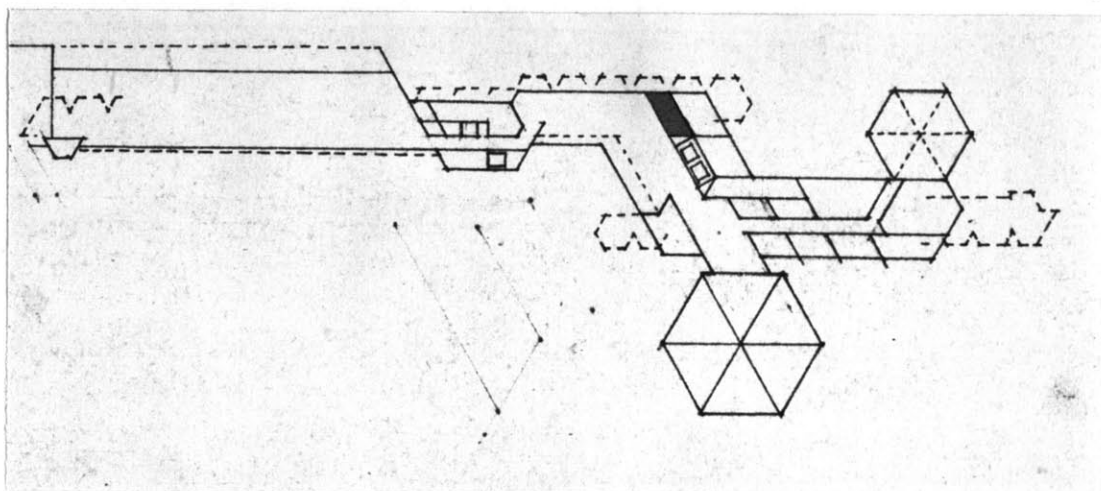
The **elevators** which connect the high rise to the ground

floor are two in number, each having inside dimensions of six feet by eight feet. The service elevator, eight feet by ten feet is located adjacent to the stairway and service closet in the south wing on each floor and serves to transport furniture and employees from the basement to the floors. As well it serves to carry people in swim suits from the floors to the ground floor, avoiding the public spaces.

In order to satisfy the fire codes there are four stairways for the total length separated by distances of approximately 200, 180, and 160 feet respectively.

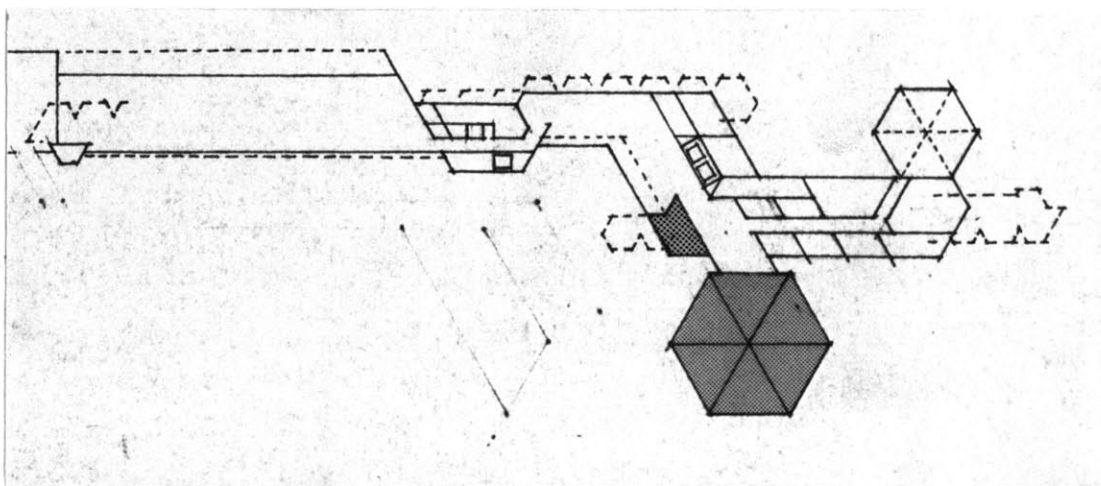


The main lobby on the ground floor contains an area of approximately 3,000 square feet with separate depressed areas for writing and sitting. The views are toward the west, and past the entry walk and car unloading area to the south-east.

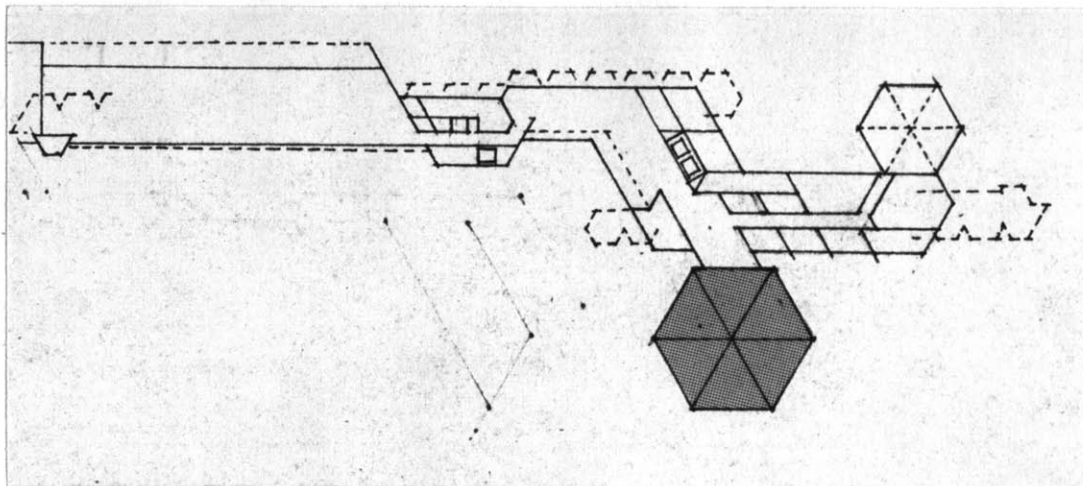


The lobby contains the registration desk next to the two passenger elevators, and forms the juncture between the indoor recreation wing, the dining room, entry hall, and the activities wing.

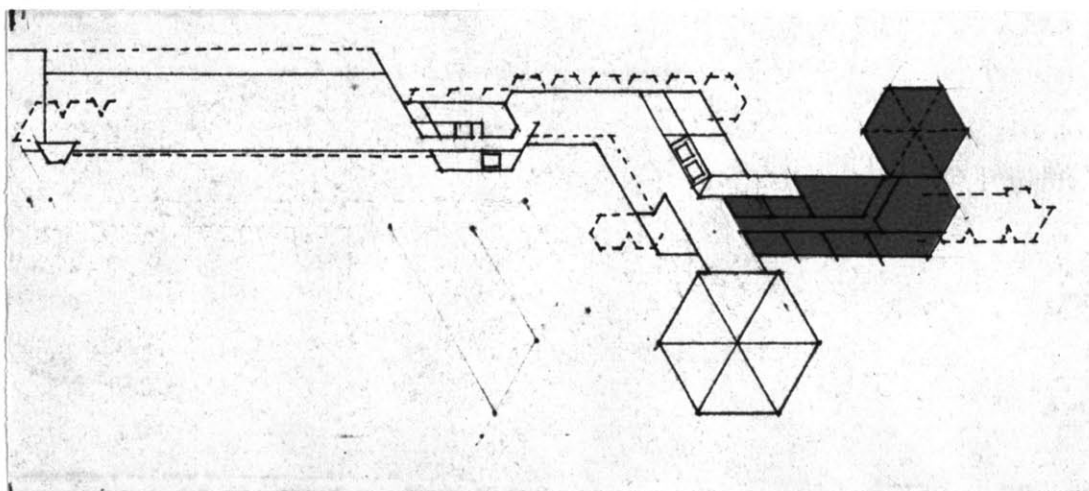
The dining room is entered beyond a separate waiting lobby adjacent to the snack bar and news stand. This snack bar



contains seats for twenty five people at a counter and has facilities totally separate from the main kitchen. The news stand is to sell cigars, cigarettes, and necessities as well as papers and has a storage area of approximately fifty square feet.

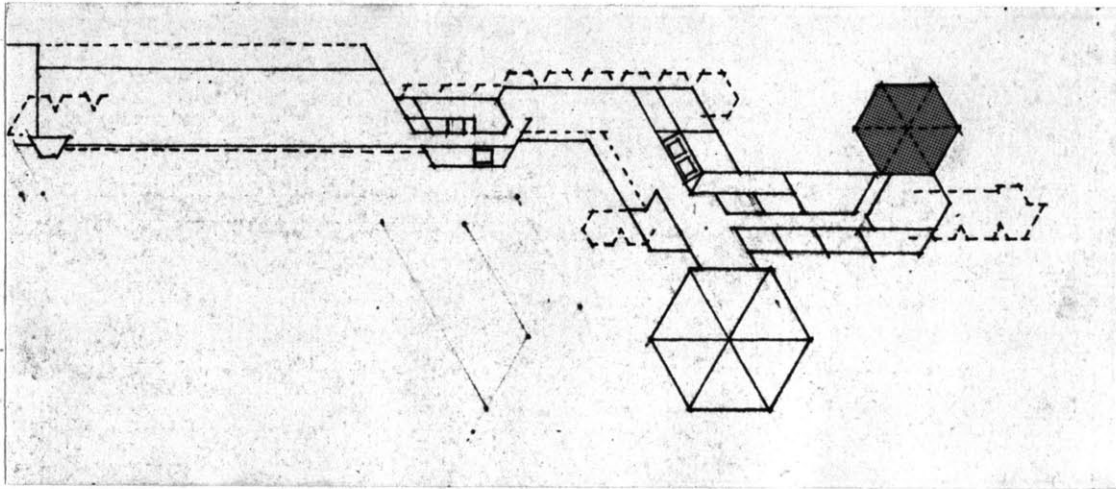


The **shell for the dining hall** is of concrete with the cocktail lounge suspended on the interior. The form is divorced from the main building and sets on the basement level, stairs carrying the guest down into the dining area. The landscaping is brought to this level on this side of the north wing and through terracing achieves an equality with the ground floor level and with the existing landscape. The area for the dining room is 4,000 square feet, allowing twenty square feet of dining area for each guest and ten square feet for each banqueter.



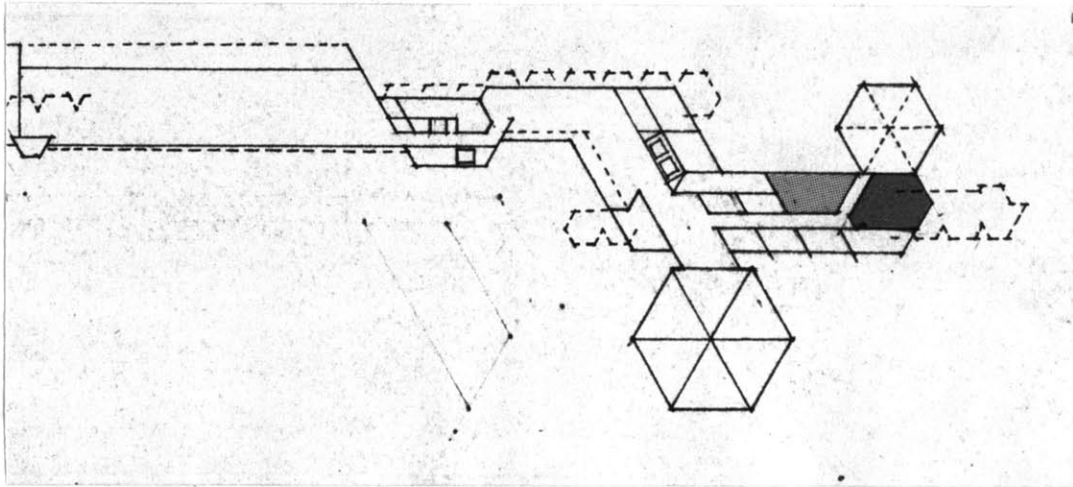
The **activities wing** is located beneath the north wing of

the high rise and contains the night club, club room, card room, barber and beauty shops, coat room, rest rooms, and hotel services room.



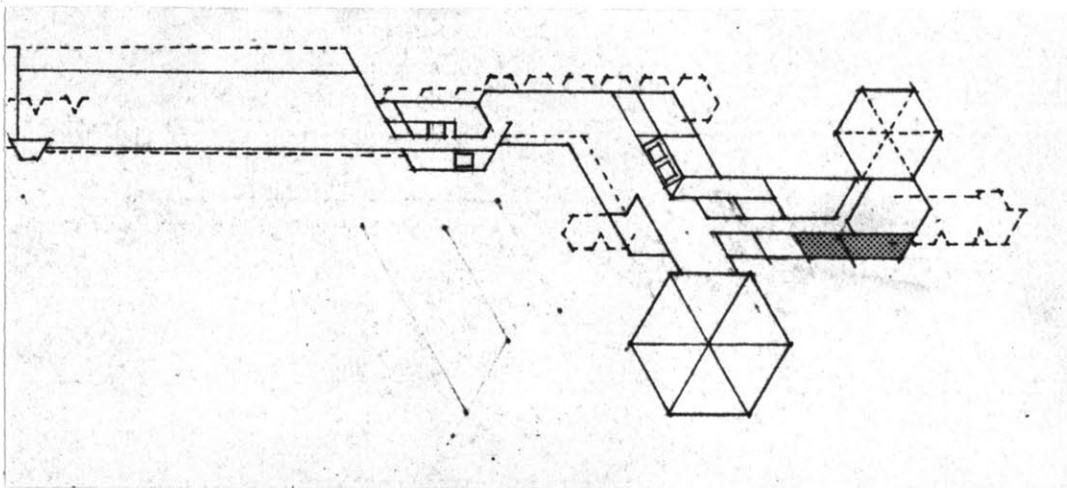
The **night club** contains 2,000 square feet, the bar occupying 200 square feet on one side, with a stage area of approximately 300 square feet in the center of the hexagonal form. The roof maintains an enclosed atmosphere but admits light through a series of clerestory windows. The floor level is depressed at the entry and equals the level of the landscaping at this point. Low walls contain the terracing and allow for expansion of the club activities outside onto a patio. As mentioned before, the accumulated noise from these activities is shielded from the north wing guest rooms by the single loaded corridors.

The **card room** contains an area of 850 square feet allowing for eighteen card tables. It overlooks a landscaped terrace enclosed by the north wing, the core and the night club.



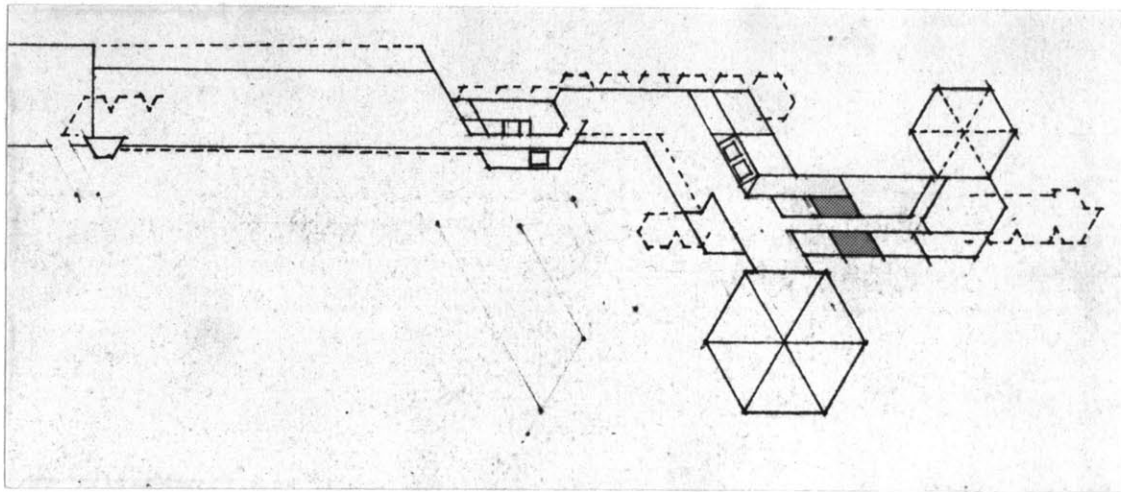
The **club room** contains an area of 1,200 square feet and provides areas for relaxation, writing, and televiewing.

These two spaces are served conveniently from the bar in the night club.

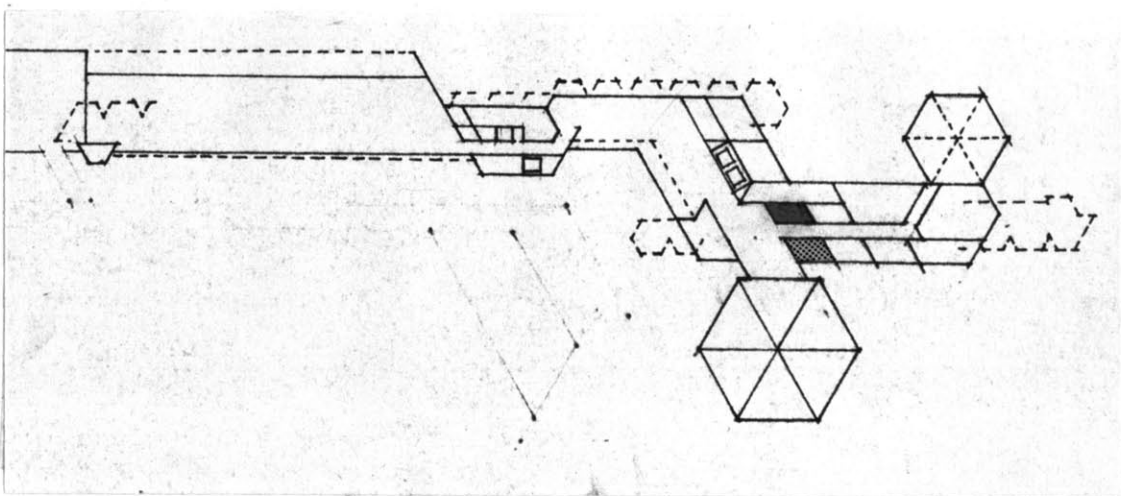


The **beauty shop and barber shop** contain areas of 500 square feet and 360 square feet respectively with spaces for wait-

ing included in each, overlooking the terraces to the east of the north wing.



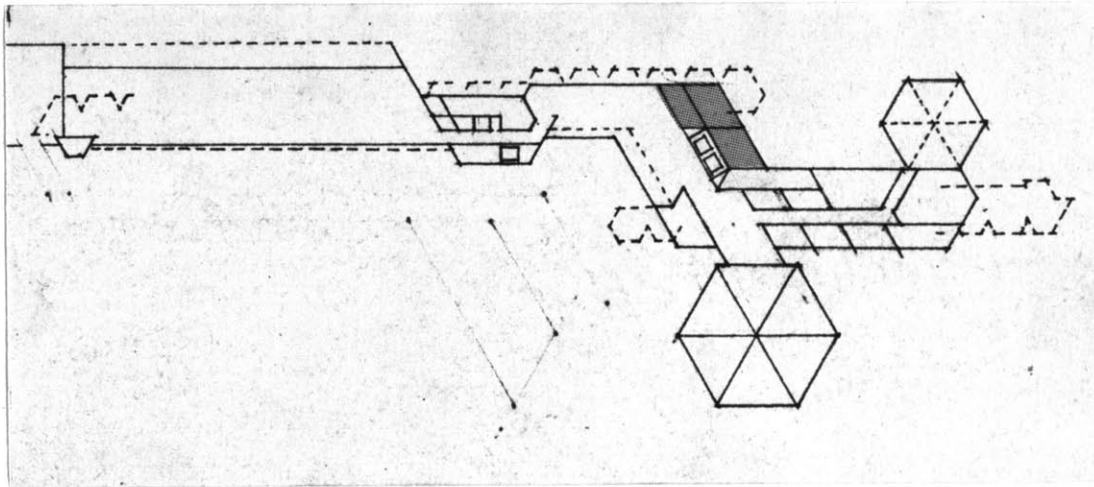
Adjacent to these are the **rest rooms**, with areas for each of 360 square feet and containing space for a smoking room and powder room.



The **coat room** contains 360 square feet and is suitable for the storage of 400 coats and accessories. The **hotel services** room contains 360 square feet and is used for guest services such as reservations for transportation, lessons, appointments, etc.

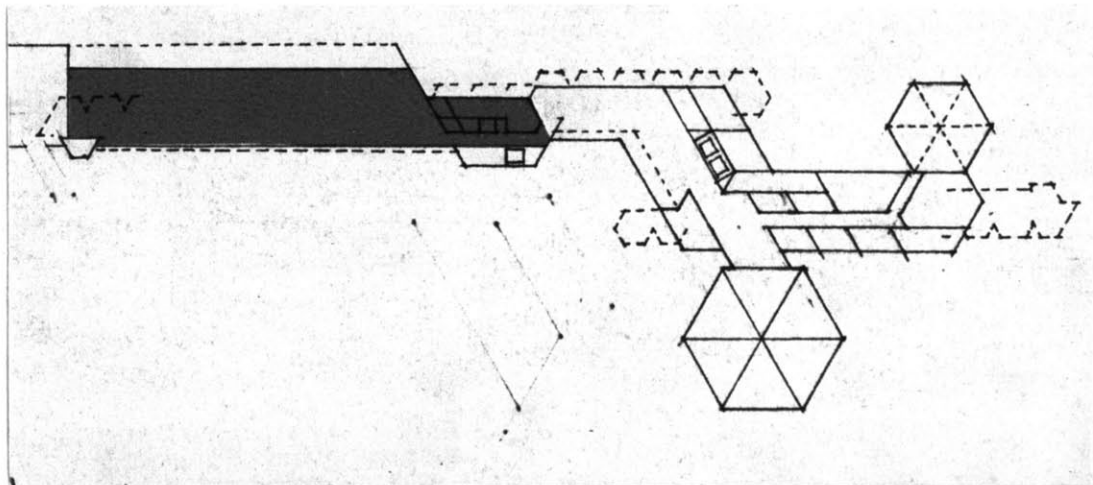
A sitting area occurs at the intersection of the hall on

which these rooms are located and the hallway which connects the dining room and main lobby.



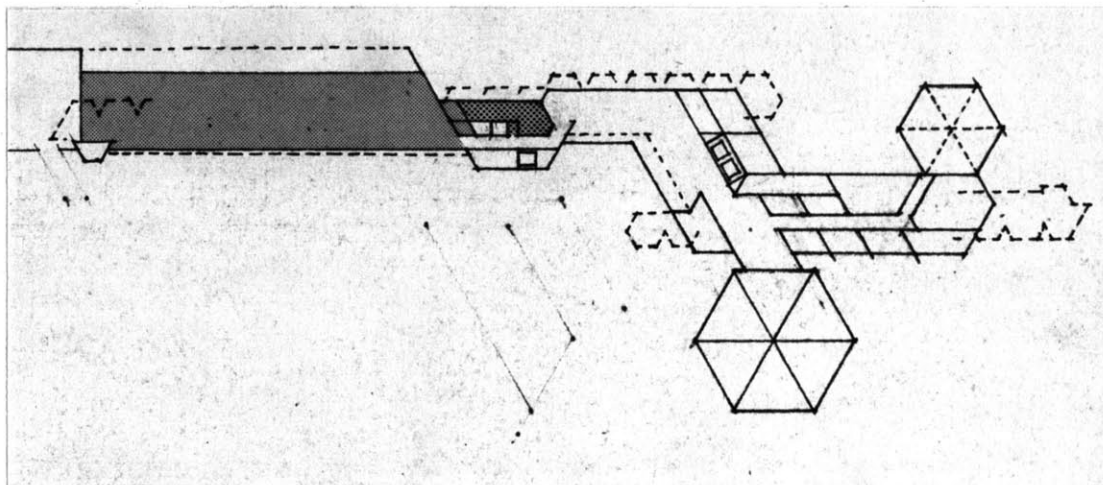
The office facilities include the registration desk, office, and file space, and total an area of 400 square feet. There is room for three desks in the office with a view towards the western hills.

The recreation wing contains the S. C. C. A. office, the recreation activities, an athletic supply room, a bar, and toilets for these activities.



The S. C. C. A. office contains three desks, a reception area, and a conference room with sixty five square feet of

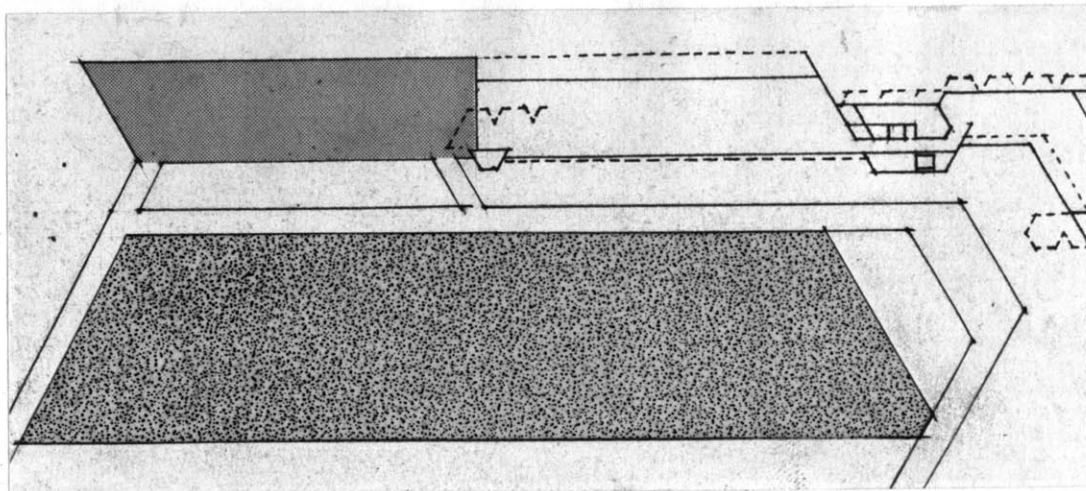
storage area. The conference room is private and seats eight persons around a round table.



The recreation room contains four bowling alleys, two shuffleboard courts, three ping pong tables, three pool tables, and three billiard tables. Both the bar and the athletic supply room contains sixty square feet of space and are connected with the recreation space.

The recreation wing connects to the pool area by a landscaped terrace, its roof providing shelter for the pump room, the pool bar, and for athletic equipment storage closets, as well as for the mens' and womens' dressing rooms and toilets.

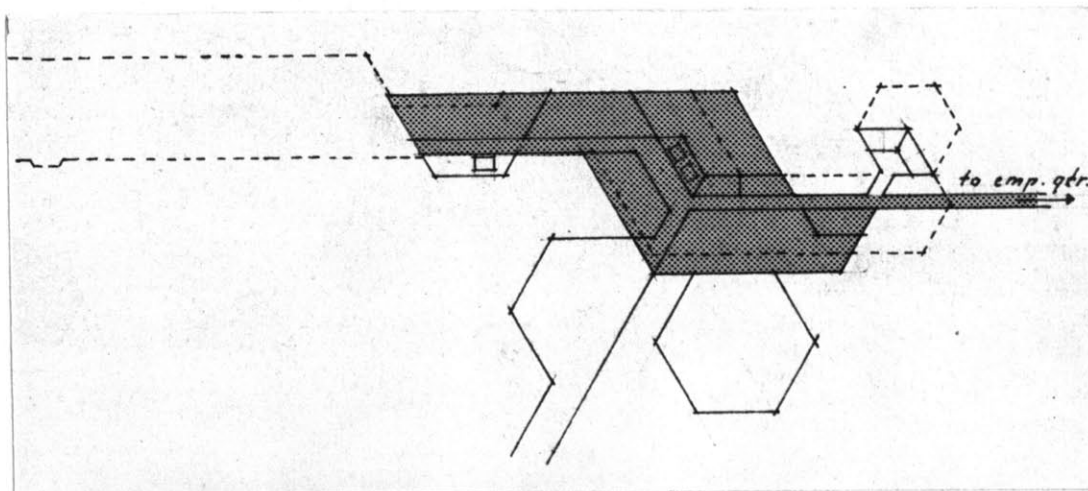
The pool itself is divided into four areas: one for wading, one for shallow swimming, one for deeper water, and the last for high diving. The pool is surrounded by a paved area with adequate space for sunbathing and for tables for sitting. The bar serves guests in these areas.



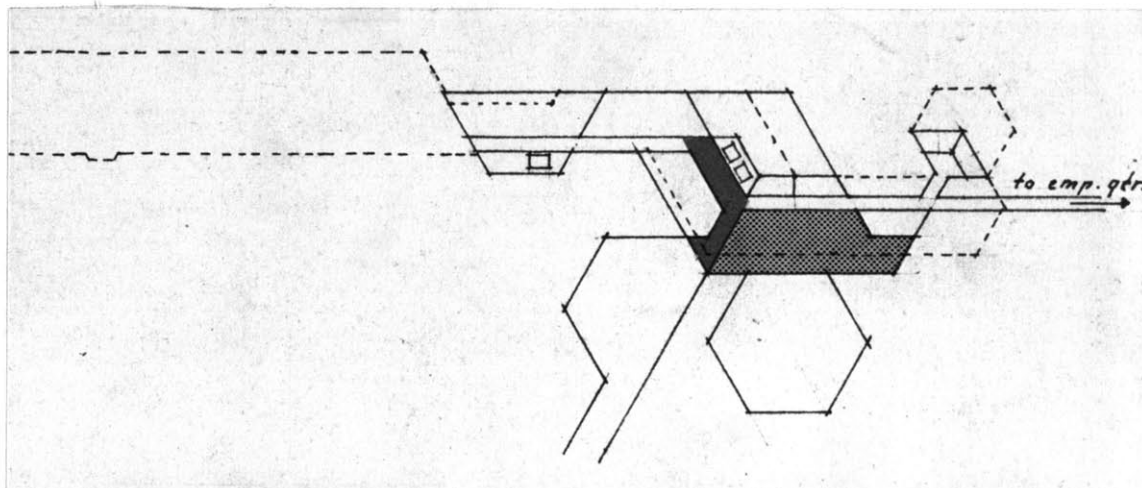
Covered parking is provided for forty cars in an extension of the recreation wing, the remainder of the parking occurring adjacent to this south wing of the hotel. The main lot is enclosed in the loop of the entry road with a covered unloading area being located where the loop comes closest to the axis of the building.

The services

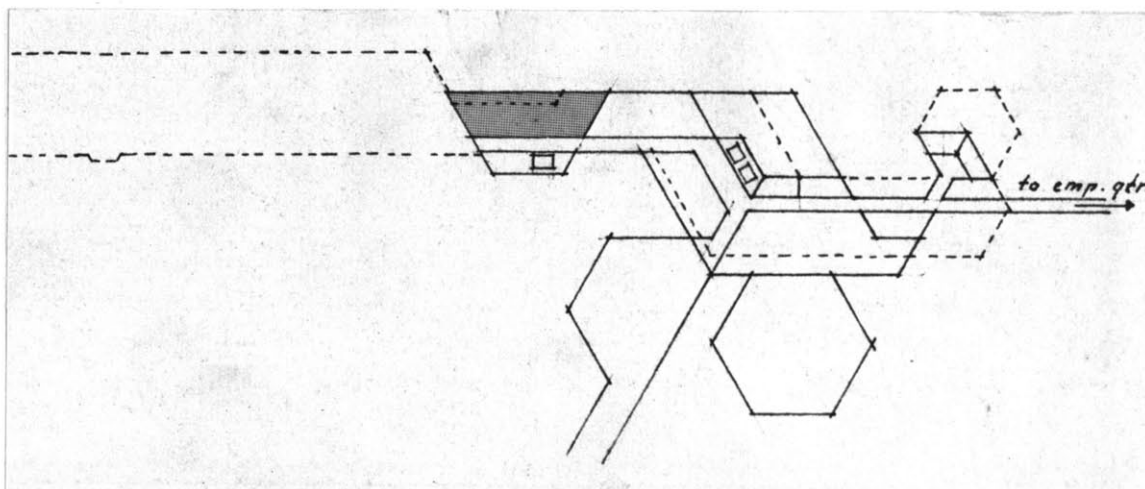
The service elements include the kitchen, utilities area, laundry, maintenance shop, storage space, receiving area, incinerator room, and employees quarters.



The receiving area is entered from the exterior at the basement level by an underground road, and feeds centrally to the kitchen storage rooms and other spaces.

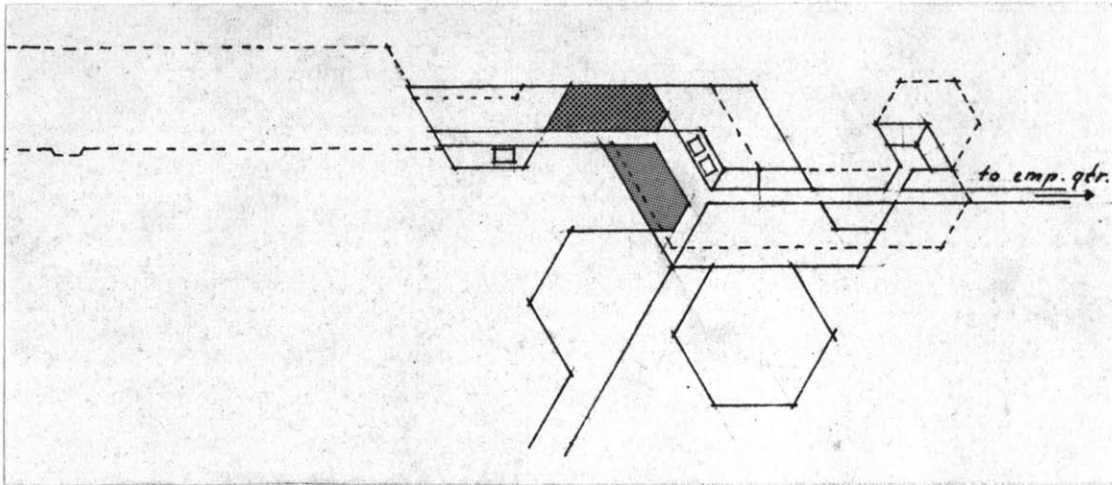


The kitchen occupies an area of 3,000 square feet including storage facilities, its actual layout to be accomplished by a qualified restaurant supplier. It adjoins the dining area.

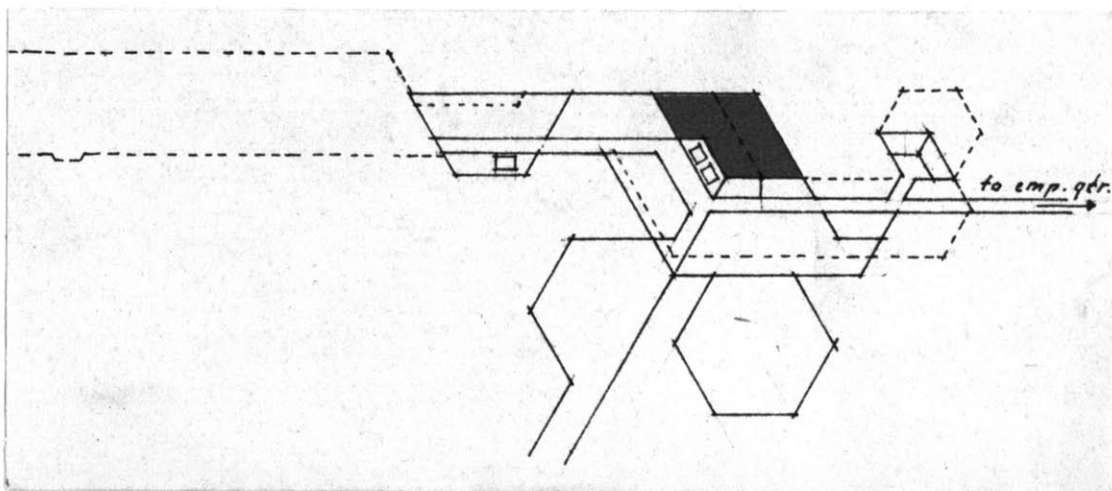


The storage space contains 1,500 square feet and provides shelves, racks, and closets for storage of packages, trunks, furniture, and summer equipment. For convenience this room is located opposite the service elevator and adjacent to

the maintenance shop. This **maintenance shop** contains facilities for the non-resident plumber, carpenter, upholsterer, painter, and window washer.



The **utilities room** contains 1,500 square feet as recommended by Stone and Webster to house a turbine generator, an electric deep water pump, electric fire pumps, a steam coil heated hot water tank, and all the air conditioning and electric equipment needed. As well, an engineer's office and space parts storage room are provided.



The **laundry area** has 1,800 square feet with facilities for

storage of soiled laundry, sorting, washing, drying, mending, and sewing, pressing, linen storage and valet service, and storage in order to serve the hotel rooms, employees quarters, and dining functions. The mechanical equipment for a structure the size of this hotel include three washers, two tumblers, three presses, two ironing boards, one soap tank, one starch cooker, and two flatwork irons, as recommended by the American Laundry Machine Company.

The employees living quarters are in a separate building to the north of the entire structure and provide housing for forty to fifty employees with parking space for sixteen cars. The building contains a living room and kitchen on the ground floor in addition to recreation facilities and storage for landscaping equipment.

Briefly, the construction of the hotel consists of a steel frame with pan poured concrete floor and roof slabs. The walls are of plaster on metal lath in the interior and of poured concrete on the exterior. The ground floor walls are of natural fieldstone. Other materials will be indicated in the final presentation.

Beyond this, any further description is not in order. The final presentation will tie the building together and present an adequate and clear description of the design.

APPENDIX

Air Conditioning for this Hotel

The hotel industry is one of the leading proponents of total air conditioning for buildings and all-air high velocity distribution is attracting growing attention as a potential solution for many of the problems which arise.

As air conditioning has become increasingly accepted as a requirement in many types of buildings, hotels have lagged behind in providing guests with comfort cooling. Although most hotels have installed some variety of system, usually in lobbies, restaurants, lounges, and in other public rooms, a recent survey shows that only twenty per cent of the hotels with one hundred or more guest rooms are totally air conditioned. Hotel managements have long been concerned with the situation and have attempted to meet the problem but have been hindered in finding an adequate solution due to the uncommonly large spaces required for duct work and controls. As well, the window box units were unadvisable for a multitude of reasons.

The problem of air conditioning new hotels, therefore, boils down to

1. finding space for the system,
2. providing each room with individual controls, and
3. accomplishing these ends without sacrificing usable space or the aesthetics of a good architectural solution.

The all-air high velocity system

Savings of space and economy are important features in an

air conditioning system, but the most obvious advantage of the all-air high velocity system is that it makes it possible to add air-conditioning in buildings where previously this could not have been done under any circumstances. Many of the savings of a system such as this one are accumulated during the initial construction. Also, the space saving features of the system allow for a reduction in floor to floor heights allowing the architect to get more floors into a building of given height than would be possible with low velocity. In short, more financial return can be gained from the same amount of cubage.

Design features of high velocity

The high velocity system consists essentially of a conventional refrigeration system including refrigerating compressors, condensers, chillers, heat exchangers, heating coils, cooling towers, conditioning water and condenser water pumps, and a central-plant air-conditioning unit. The air is filtered, cooled, and dehumidified -- or heated and humidified -- in the central air conditioning unit. The system draws in outside air, mixes it with return air from the building, passes the mixture through the air conditioning unit, and distributes it through a high velocity system to the conditioned spaces. Since the velocity at which the air is sent is much greater than in conventional systems, the size of the ducts may be reduced proportionally. For example, if the velocity of the air in the ducts is

6,000 fpm, the ducts need be only one fourth as large in cross-section as those carrying air at 1,500 fpm, with the same quantities of air being delivered in both cases.

In addition, the high temperature differentials which are possible in a high-velocity system reduce the amount of air required in a room, since the amount of cooling is a function not only of the amount of air supplied, but also of its temperature.

In the all-air system, all refrigeration is accomplished in the central plant, and the only elements present in the rooms are the attenuator-diffuser units. This consists of a sound-attenuating chamber, tapped onto the supply ducts, which feeds directly into the diffuser. The attenuating chamber reduces the velocity of air fed from the ducts and, in addition, eliminates the noise generated by air moving at high speeds. The diffuser takes in room air, mixes it with the air from the supply ducts and discharges it draftlessly into the room.

Since there is no established requirement as to the location of the attenuator-diffuser units, any suitable location in a room can be used and the availability of a variety of units adds considerable flexibility to the system. Some rooms can be equipped with under window units, others with ceiling units, still others with sidewall units, depending on the cooling requirements or structural features of the area. The location of the attenuator-diffuser com-

bination in a corridor, with the outlets protruding into the room, is one of the possible systems. that renders high velocity particularly adaptable to hotels.

The system may be controlled as any conventional central plant air distribution system except that special consideration must be given to balancing and/or modulating the flow due to the noise potentialities of high velocity air. The success of this system depends on securing an air outlet that can control the air flow with a minimum of noise while aspirating a sufficient quantity of room air to be mixed with air from the system. This will allow conditioned air to be introduced into the occupied space at a reasonable temperature.

Individual room control in the hotel room is essential for two reasons: (1) the comfort of guests whose tastes are likely to vary considerably, and (2) economical operation of the system, since rooms can be closed off from the supply when not in use. High velocity can be controlled in various ways: Manual control, directly at the diffuser, regulated by the occupant himself when he desires a change in room temperature. Remote manual control can be used where the diffuser is installed above the door or in the ceiling. Preset, thermostatically controlled units can also be installed in large public spaces.

Draftless air diffusion is another inherent property of

the attenuator-diffuser unit. The cores or vanes on the individual units can be designed or varied so as to provide draft-free air motion. As well, due to the possibility of twenty four hour occupancy, quiet operation is considered an important factor. The all air high velocity system makes it possible to eliminate outside or street noises, and careful selection and placement of the equipment can minimize the creation of additional noise sources. The high velocity sound attenuator terminal chambers, constructed with sound baffles and fiber glass insulation, absorb a great deal of noise which is air-borne, generated by the fan, or in the duct work. One source of noise which is definitely eliminated in high velocity systems is cross-talk between rooms through the duct system. Whether the system is in operation or not, there is no possibility that the duct could act as a transmitter of any sound from room to room, as there are always two sound attenuator terminals between each room.

The high velocity system also eliminates all fans, filters, coils, and motors in the room. Therefore, there is no need for any individual room servicing with the corresponding redecorating which often follows the serviceman's visit.

Having decided to incorporate this type of system into the design, a choice must be made as to which of two types of high velocity systems will be used. The single duct

system distributes the air from the main unit throughout the building through a single riser or duct per zone with one outlet for each room. Temperature control in this system consists of varying the amount of air supplied to the area by regulating a damper at the attenuator-diffuser unit. As the quantity of room air supplied to the attenuator is decreased, the temperature of the room is reduced.

The dual duct system has steadily increased in popularity since the advent of high velocity. Instead of one duct, air from the main unit is fed into a hot duct and a cold duct. The two ducts run parallel to each other throughout the building. At each outlet, both ducts tap onto the attenuator unit, and the hot and cold air are mixed, the resulting mixture being discharged into the room. Temperature is varied not by controlling air quantities as in the single duct system but by changing the proportions of hot and cold air supplied to the attenuator. At the same time the total quantity of air supplied remains constant. This system is far more flexible than the single duct system and as previously noted can be used for both heating and cooling.

In comparison with other types of conditioning the all-air high-velocity system is outstanding. Only the common, ugly window unit is less expensive (per square foot of space conditioned) and less expensive to install. The high-velocity systems (all-air, and air and water) and the

window unit all have individual room controls while the standard low velocity systems and multiple small space units do not. These other units, however, all produce noise or some cross talk, the window unit being the worst. Maintenance is non-existent for only the all-air high velocity system and as well this system uses the least number of square feet of wall, floor or ceiling area. It is beyond all doubts the answer to the hotel air conditioning problem.

With these facts in mind I believe that a dual duct all-air high-velocity air conditioning system is adequate for inclusion in the hotel whose design is being undertaken as this thesis.

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